

I can only get some what old Speci-  
mens, and they exhibit no rotative  
power or exceeding by feeble; had they  
possessed it it would surely have been  
recognized and ~~they~~ would have been  
entered on the usual Catalogues of such  
substances. I am therefore curious to  
see if our Larix (I believe Venice turpi-  
d) Larix to come from P. Larix = Larix Eu-  
ropea) and our other species of Abies, as  
P. pectinata are in the same category.  
I hope to <sup>get</sup> your samples in August when  
I have a little more leisure than now, our  
dissiminations approaching. Could you  
put up specimens, leaves and cones, of your  
foreign Conifers for me? By the bye what  
Properties do the other Conifers such as  
Juniperus, Taxus &c yield. I must try and  
get them. Ah, the more we have the more  
we want. Of our Atlantic Pines, I only  
want now the properties of P. pinaster and  
P. Banksiana, to complete statement  
of No 1.

There has appeared in our fruit stores within two  
years, a new nut, the "African nut" or "Paradise nut".  
Do you know anything of it? It seems to me to be a seed  
I have a fancy to have a Sea Cocoa nut, the old Coco Mal-  
dereux or Seychelles nut. Can they be purchased in Boston or  
N. York? Glad to find you don't mind me!

Yours truly  
Lewis R. Gibbes.

College of Charleston

5 July 1837

Prof. Asa Gray Cambridge Mass

My dear Sir,

Thanks to yourself, Mr.  
Dr. Cleveland for Twp. of P. resinosa  
and of P. rigida. The little trials contained  
exactly the quantity in which I usually  
make my first trials, the rest shall be  
had to get at a future time. I am glad  
also to learn that you will be able to send  
me samples from the following which you men-

Pinus strobus Abies balsamea Larix European-  
austriaca nigra Americana  
Cembra pectinata

Can you not add also to compare with P. Cembra  
balsamifer.  
Pinus strobus, which is not near <sup>to the</sup> old <sup>than</sup>  
230 miles, in the mountains; to which I  
have written for several properties not  
yet arrived. The ordinary Canada Balsam  
is obtained I believe from "blister" or accumu-  
lations under the bark of the tree; I should  
like to get fresh pieces from the "blister",  
and from the body of the tree by the usual

method, for though I scarcely expect them to differ, there is a satisfaction in putting the question direct. I should be pleased to work out the results for the European trees from specimens <sup>obtained from stocks</sup> in our own country. I have no idea you had them, or I should certainly have asked for them. I have written to Sir Wm J. Hooker at Kew and mailed the letter two days before yours came, so could not mention Engelmann. I wrote also to R. Russell in Scotland for *P. Sylvesteris*, to Pawkin (one of our druggists now in Erm.) for Venice turp., to Bonneux for *P. maritima* or *P. Pinaster* of which it seems to be a variety. Send what you may be able to get however.

The facts I have obtained are these.

1. All our pines that I have examined, that is *P. Australis* (= *P. palustris*), *P. Taeda*, *P. rigida* (including *P. Scotina* for I have tried hard to find a distinction but in vain), *P. squarrosa* Walt. (= *P. nitidus* = *P. vomitoria*), *P. glabra* Walt., *P. pinops*, ~~P. pinaster~~, and your *P. resinosa* yield turpentines rotating to the left, and with considerable power, though varying somewhat in each species.

2. By distillation at either a high temp. say 300° F. or a lower say 200° F. the temp. of

one, *P. australis*, and probably all yields a spirit or essence rotating to the right

3. By distillation at high temp. (as above) a resin remains which rotates to the right but by distillation at low temp. (as above), a resin which rotates to the left. That is, from *P. australis*, and probably from the others too.

The first and third of these facts are new to me and as far as I can learn are new to science, though from want of access to books, I hesitate (in other cases too much, I think) to pronounce <sup>it</sup> open. I have fourillé all the works within my reach, and cannot find any mention made by botanist, chemist or physiologist, of the optical examination, as to circular polarization of any turpentine or resin, not even of the European. It so happens that Quartz and Camphor are the only solids that I find mentioned as possessing circular polarization. If these be all that are known, then the resins mentioned above are two solid bodies possessing this, now now recognized as such for the first time.\*

Of Venice turp. and Canada balsam  
\* If any facts at this point turn up in your reading, do communicate.